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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

APR 04 1996

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

SR-6J

Mr. Ronald Frehner
Project Coordinator - ACS NPL Site
Conestoga-Rovers & Associates
1801 Old Highway 8, Suite 114
St. Paul, Minnesota 55112



RE: Partial Approval of Perimeter
Groundwater Containment System Design,
American Chemical Services, Inc.,
Griffith, Indiana

Dear Mr. Frehner:

The United States Environmental Protection Agency (U.S. EPA) hereby responds to the March 20, 1996, correspondence submitted by Montgomery Watson on behalf of Respondents to the Unilateral Order (Docket No. V-W-95-C-260) for the American Chemical Service, Inc., National Priorities List (NPL) Superfund Site located in Griffith, Indiana (ACS Site). U.S. EPA and the Indiana Department of Environmental Management (IDEM) are in favor of expeditious construction of the Perimeter Groundwater Containment System (PGCS) to prevent further off-site migration of contaminated groundwater in the upper aquifer to the west and northwest of the ACS Site.

Given that Respondents believe that a design/build approach will serve to expedite the design and get the system operational and functional this year, U.S. EPA has approved of the design-build approach. Hence, U.S. EPA hereby agrees to Respondents moving forward with the design-build approach and ordering the necessary components of the PGCS.

In this regard, as previously discussed, U.S. EPA will not take on a major oversight role in reviewing the design of the system; hence, Respondents are taking additional risk that the performance of the system will meet its intended goals.

One item is still of concern to U.S. EPA: the proposed length of the proposed trench on the north side of the site is questionable. U.S. EPA performed a brief overview of the model used to designate the trench length and to evaluate the extraction capture of the trench. In this review, several questions and issues requiring clarifications became apparent; these are included in the enclosure to this letter. U.S. EPA would appreciate clarification of the enclosed issues within 21 days of receipt of this letter.

Lastly, U.S. EPA comments to the 50% PGCS design plan are forthcoming. To be clear, in its review of the PGCS Design Plan, U.S. EPA will focus heavily on the performance standard verification plan. In this regard, the capture of the contaminant plume is one performance standard which must be demonstrated.

If you have any questions, or require clarification, you may reach me at (312) 886-4745.

Sincerely,



Sheri L. Bianchin,
Remedial Project Manager
Office of Superfund
Remedial Response Section #3

Enclosure

cc: Peter Vagt, Montgomery Watson
Joseph Adams, Montgomery Watson
Ron Schlicher, Montgomery Watson
Holly Grejda, IDEM
Steve Mrvicka, Black & Veatch
Mike McClary, U.S. EPA, ORC
Steve Mangion, U.S. EPA, HQ

ENCLOSURE

Review Comments
on March 20, 1996, Technical Brief
Proposal to Modify the Groundwater Extraction Trench
Perimeter Groundwater Collection System (PGCS)

American Chemical Services, Inc.
Griffith, Indiana

GENERAL COMMENTS

1. The procedures used to evaluate the trench performances seem reasonable. However, the validity of the results will depend on the MODFLOW model used for the site. To save time and allow the project to progress at the expedited pace, a detailed review of the MODFLOW model documentation was not performed.
2. The trench simulation is completed for a rough estimate and demonstration of the flow patterns on the north side of the plume. The model results given are gross estimates. The constant head boundary east of the firepond is critical to the migration of particles from the east side of the firepond to the trench (as shown on figures 3, 4, and 5), and should be justified.
3. As Montgomery Watson representatives discussed with Black and Veatch representatives (U.S. EPA's oversight contractor), the conductance of 50 ft² per day is a mistake and should have been 100 ft² per day.
4. In general, the model used to demonstrate the trench influence is a rough model that simulates a smaller area of a previous model. The constant head boundaries used are closer to the trench influenced area and may potentially influence simulation results. The 200 inch per year average recharge rate used at firepond is an estimate from

previous modeling from surface water flow and storm water discharges. This rate can vary significantly with time and justification of the average recharge rate is very important.

5. The model (according to Montgomery Watson) uses an average hydraulic conductivity of 12 ft/day for the entire aquifer. Slug test data indicated hydraulic conductivity increase from west to east. The higher hydraulic conductivity used to model the western portion of the air can also potentially decrease the resistance of flow towards the trench from the east side and result in unrealistic flow paths towards the trench from farther zones.

SPECIFIC COMMENTS

6. Page 1, 4th paragraph.

Modpath will show the path that a particle will flow from areas of elevated hydraulic head to areas of low head. How does this information predict the zone of capture for the contaminant plume?

7. Page 2, 3rd paragraph.

What effects would be produced by a 4-foot drawdown?

8. Page 2, 4th paragraph.

Why are the modeled contours different than the October 1995 contours? It appears to be a stretch to say that the comparison between the Modpath flowlines and the actual contaminant plume show the same general extent between the modeled and the actual extent of contamination. The problem, as stated on page 3, is that the flowlines do not represent the predicted (modeled) extent of contamination. Will a contaminant transport model be run?

9. Page 3, last paragraph.

What were the additional trench configurations that were evaluated? How does the comparison between the modeled particle tracks and the actual extent of contamination indicate the trench configuration is sufficient?